

Mico-Switch PoE/5

5 Port 10/100Base-TX with 4 PoE Switch

PN: POE-35055T



USER'S MANUAL

Introduction

Power-over-Ethernet (PoE) eliminates the need to run DC power to other devices on a wired LAN. Using a Power-over-Ethernet system, installers need to run only a single Category 5 Ethernet cable that carries both power and data to each device. This allows greater flexibility in the locating of network devices and, in many cases, significantly decreases installation costs.

There are two system components in PoE - the PSE (Power Sourcing Equipment) and the PD (Powered Device). The IEEE 802.3af/at specification defines PSE as a device that inserts power onto an Ethernet cable. The PSE may be located at the switch (Endspan configuration). or it may be a separate device located between the switch and the PD (Midspan configuration). The PD is the natural termination of this link, receiving the power, and could be an IP phone, a WLAN access point, or any other IP device that requires power. The current is transmitted over two of the four twisted pairs of wires in a Category-5 cable.

Power-over-Ethernet follows the IEEE 802.3af/at specification and is completely compatible with existing Ethernet switches and networked devices. Because the Power Sourcing Equipment (PSE) tests whether a networked device is PoE-capable, power is never transmitted unless a Powered Device is at the other end of the cable. It also continues to monitor the channel. If the Powered Device does not draw a minimum current, because it has been unplugged or physically turned off, the PSE shuts down the power to that port. Optionally, the standard permits Powered Devices to signal th the PSEs exactly how much power they need.

Unicom's Micro-SwitchPoE/5 Switch is a multi-port switch that can be used to build high-performance switched workgroup networks. This switch is a store-and-forward device that offers low latency for high-speed networking. It also features a "store-and-forward" switching scheme that allows the switch to auto-learn and store source addresses in a 1K-entry MAC address table. The switch is targeted at workgroup, department or backbone computing environments.

Hardware Description

The Front Panel

The front panel consists of LED Indications.

LED Indicators

Per Device: Power

Per Port: LINK/ACT (Link/Activity)

Per PoE Port: PoE

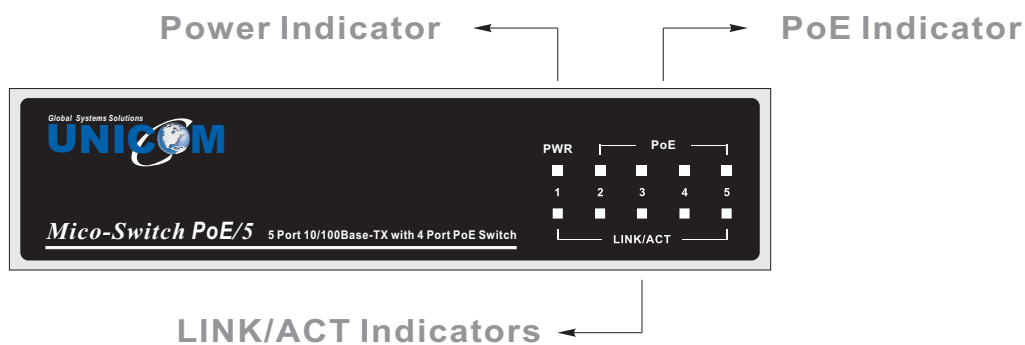


Figure 2. Front panel view of LED indications

LED	Status	Color	Description
Power	On	Green	The switch is supplied with suitable power.
LINK/ACT	On	Green	The port is connecting at 10Mbps.
	Blinks	-	The port is receiving or transmitting data.
	Off	-	The port is not linked successfully with the device.
PoE	On	Green	PD is connected
	Off	-	No PD is connected or power forwarding fails

The Real Panel

The rear panel view of the Mico-Switch/5 consists of a DC power connector and 5 auto-sensing ports.

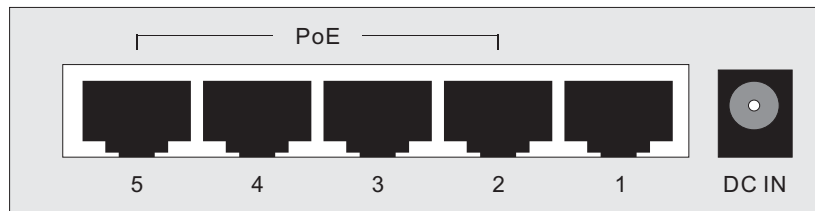


Figure 3. Rear panel view of the **Micro-Switch/5**

■ **RJ-45 Ports (Auto MDI/MDIX)**

5 auto-sensing ports of 10/100 N-way for 10Base-T or 100Base-TX connections. [*In general, MDI means connecting to another Hub or Switch while MDIX means connecting to a workstation or PC. Therefore, Auto MDI/MDIX means that you can connect to another Switch or workstation without changing pin-to-pin or crossover cabling.*]

Four of these ports can supply to PDs.

■ **DC Power Connector**

Plug the female connector into the switch and male connector into a power outlet. **Supports input voltages 48 VDC at 1.35A.**

Package Contents

Package contents include the following:

- **Micro-Switch PoE/5**; 5 Port 10/100Base-TX with 4 port PoE Switch
- DC power adapter
- Four (4) adhesive-backed rubber feet
- User's manual
- Warranty card

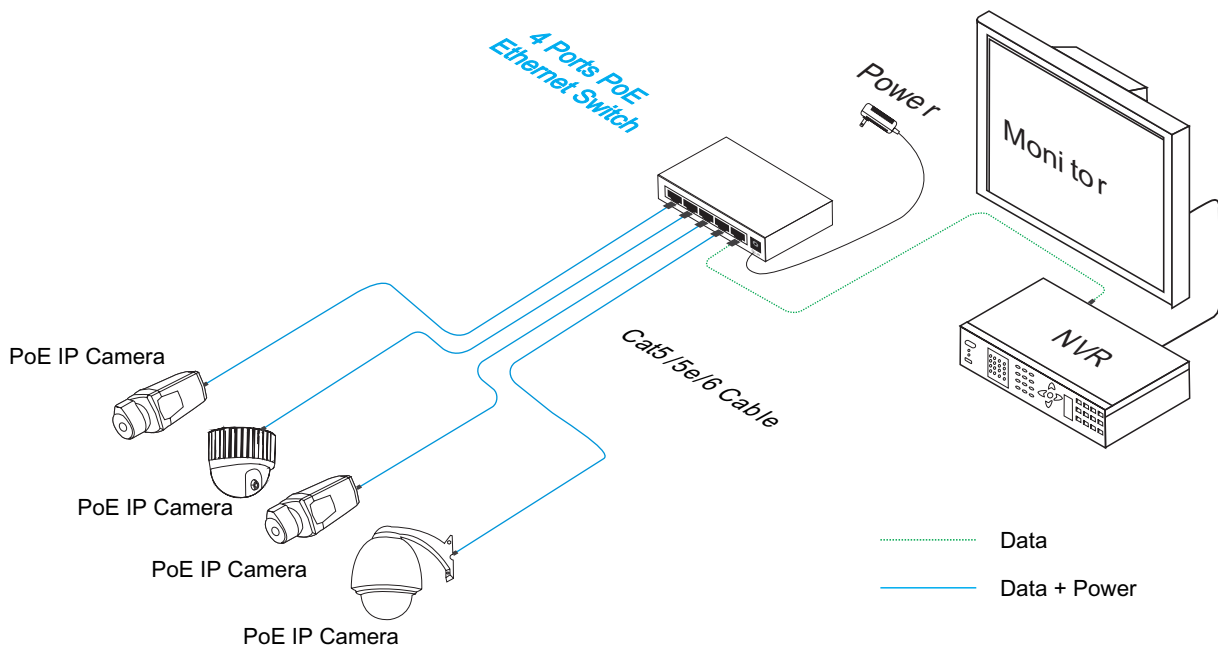
IMPORTANT: If any piece is missing or damaged, please contact your local dealer or reseller for service.

Network Application

This section provides a few samples of network topology in which is used. The **Micro-SwitchPoE/5** is designed as a segment switch that has a large address table and high performance to deal with interconnecting networking segments.

PC, workstations, and servers can communicate with each other by directly connecting with the **Micro-SwitchPoE/5**. The switch automatically learns nodes addresses, which are subsequently used to filter and forward all traffic based on the destination address.

The **Micro-SwitchPoE/5** can provide power to PDs that follow the IEEE 802.3af/at standard in the network and solves the problem of position limitation. The network devices can be installed in more appropriate position for better performance. The following figure is an example of network application for Power over Ethernet Switch.



Troubleshooting

This section is intended to help solve the most common issues with the **Micro-SwitchPoE/5**

■ Incorrect connections

Every port on this switch can automatically detect either straight or crossover cables when you link it with other Ethernet devices but other devices may demand a specific cable type (depending on the device). Choose the appropriate cable to connect between the units. The RJ-45 connector should use correct UTP or STP cable, 10/100Mbps port use 2-pairs twisted cable. If the RJ-45 connector is not correctly pinned then the link will fail.

■ Faulty or loose cables

Look for loose or obviously faulty connections. If they appear to be OK, make sure the connections are snug. If that does not correct the problem, try a different cable.

■ Non-standard cables

Non-standard and miswired cables may cause numerous network collisions and other network problems, and can seriously impair network performance. A cable tester is the recommended tool for network installation.

RJ-45 ports: Use unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ-45 connections: 100 Ω Category 3, 4 or 5 cable for 10Mbps connections, 100 Ω Category 5 cable for 100Mbps connections, or 100 Ω Category 5e/above cable for 1000Mbps connections. Also be sure that length of any twisted-pair connection does not exceed 100 meters (328 feet). We suggest using Category 5e cable when connection to power a device.

■ Improper Network Topologies

It is important to make sure that you have a valid network topology. Common topology faults include excessive cable length and too many repeaters (hubs) between end nodes. In addition, you should make sure that your network topology contains no data path loops. Between any two end nodes, there should be only one active cabling path at any time. Data path loops will cause broadcast storms that will severely impact your network performance.

■ Diagnosing LED Indicators

To assist in identifying problems, the switch can be easily monitored through panel indicators, which describe common problems the user may encounter and where the user can find possible solutions. If the LED display detection isn't correct, please unplug then plug in the cable again.

If the power indicator does not light when the power cord is plugged in, you may have a problem with the power outlet or power connections, power losses, or surges at power outlet. If the problem still cannot be resolved, please contact the local dealer for assistance.

Product Specifications

Standard	IEEE 802.3 10Base-T Ethernet
Compliance:	IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3af/at Power over Ethernet
Transfer Rate:	14,880 pps for 10Mbps 148,800 pps for 100Mbps
Connector:	10/100TX: 5 x RJ-45 with auto MDI/MDI-X functions; Port 2~5 support PoE injector function
PoE pin assignmnet:	V+ (RJ45 Pin 4, 5), V- (RJ45 Pin 7, 8)
MAC Address:	1K MAC address table
Switching capacity:	1G
LED Indicator:	Per port: Link/Activity Per PoE port: PoE Per unit: Power
Network Cable:	2-pair UTP Cat. 5e cable (100m), EIA/TIA-568 100-ohm STP (100M)
Dimension:	92mm x 68mm x 24mm (W x D x H)
Ventilation:	Fanless
Operating Temp:	0°C to 45°C (32°F to 113°F)
Operating Humidity:	10% to 90% (Non-condensing)
Power Supply:	External power supply Input: AC100~240V; Output: DC 48V, 1.35A
Power Consumption:	65 Watt
EMI:	FCC Class B, CE

FCC Statement

This equipment has been tested and found to comply with the limits for a class B device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at the user's expense.



565 Brea Canyon Rd., Ste A
Walnut, CA 91789

Phone: 626.964.7873

www.unicomlink.com

Fax: 626.964.7880

e-mail: info@unicomlink.com

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